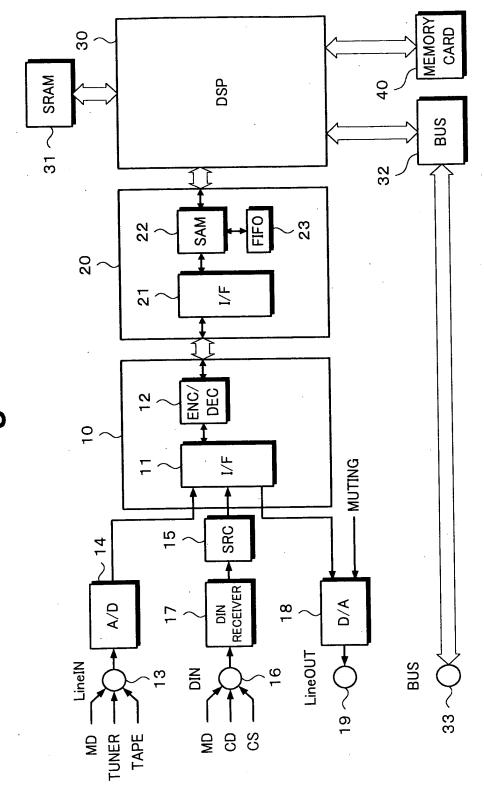




Fig. 1

the time of the state of the st



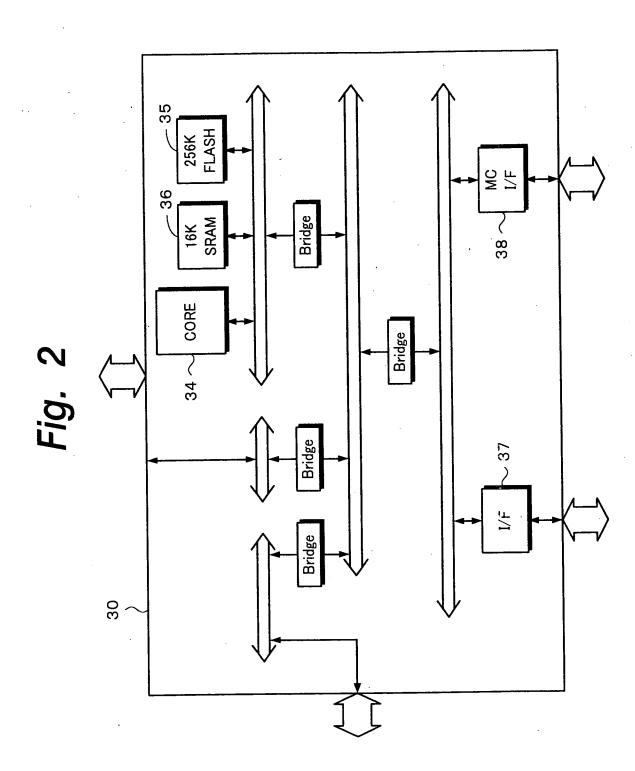
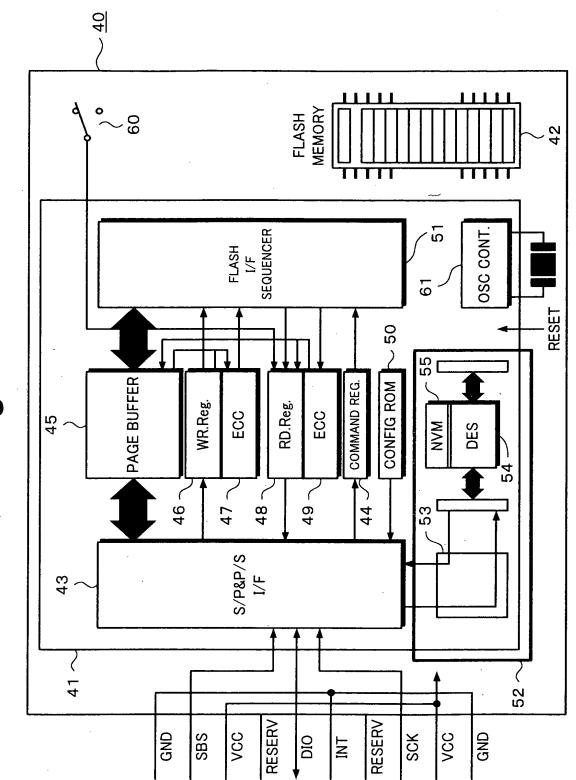


Fig. 3



APPLICATION PROCESS

FILE MANAGEMENT PROCESS

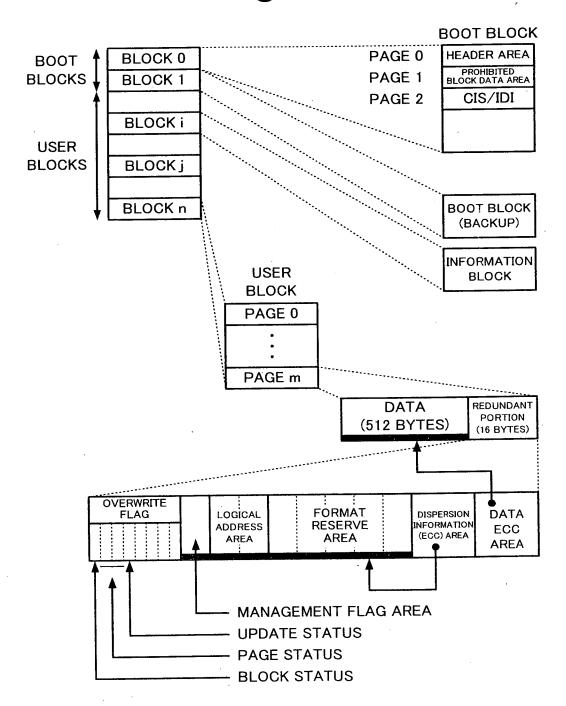
LOGICAL ADDRESS MANAGEMENT

PHYSICAL ADDRESS MANAGEMENT

FLASH MEMORY ACCESS

FILE SYSTEM PROCESS
HIERARCHY

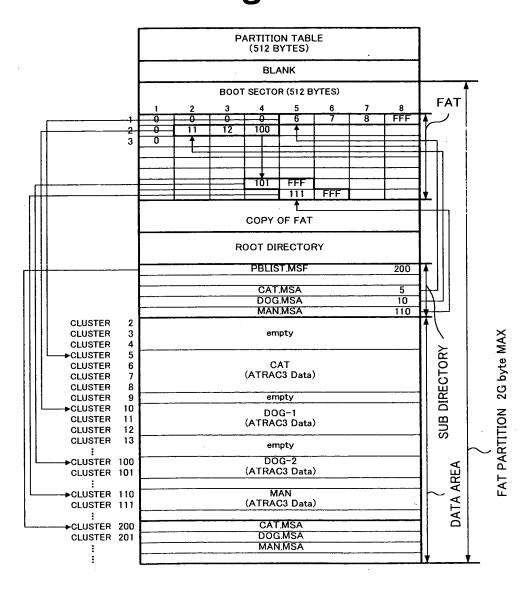
Fig. 5



**₽** 

the test street of the test stre

Fig. 6



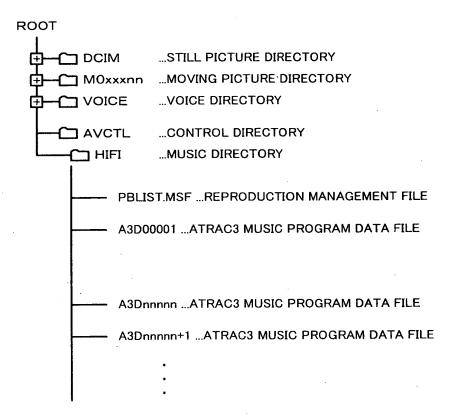
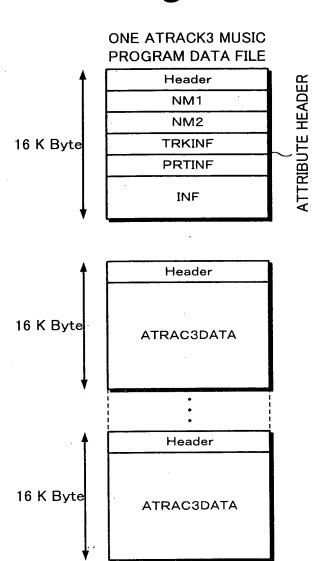


Fig. 8

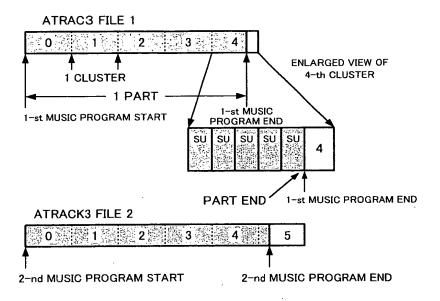
REPRODUCTION

## MANAGEMENT FILE Header NM1-S NM2-S TRKTBL INF-S

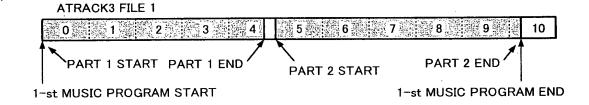
Fig. 9



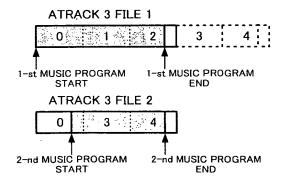
#### Fig. 10A



#### Fig. 10B



#### Fig. 10C



BY CLASS SUBCLASS DRAFTSMAN

Fig. 11

ŀ

REPRODUCTION MANAGEMENT FILE (PBLIST)

BLKID-TL0 SN1C+L SN2C+L SN1C+L SN2C+L SN1C+L SN2C+L SN2C+L SN2C+L SNM1-S(256)  NM1-S(256)  NM2-S(512)  Resen  Resen  TRK-001 TRK-002 TRK-010 TRK-393 TRK-393 TRK-394 T	4 5 6 7 8 9 A B C D E F	Reserved MCode REVISION Reserved	SINFSIZE T-TRK VerNo Reserved			red CONTENTSKEY	red MAC	Reserved S-YMDhms	-RK-003 TRK-004 TRK-005 TRK-006 TRK-007 TRK-008	TRK-011 TRK-012 TRK-013 TRK-014 TRK-015 TRK-016		TRK-395 TRK-396 TRK-397 TRK-398 TRK-399 TRK-400		
D-TL0 SN2C+ 256) 512) TRK-0 TRK-3 4720)	4	Reserved	- SINFSIZE			Reserved	Reserved	Reser	TRK-003	0 TRK-011		14 TRK-395		
	. 1		-	NM1-S(256)	NM2-S(512)				_		·	-	INF-S(14720)	

O.G. FIG. APPROVED CLASS SUBCLASS BY DRAFTSMAN

4

ш

Reserved

VerNo

Fig. 12A

0X0010

0000X0

Reserved ۵ ပ  $\omega$ ⋖ တ ω ဖ Ŋ 4 က  $^{\circ}$ 0

REVISION MCode

T-TRK SINFSIZE Reserved SN2C+L **BLKID-TLO** SN1C+L

NM1-S(256) NM2-S(512)

0X0020 0X0120 0X0320

Reserved

TRK-001 | TRK-002 | TRK-003 | TRK-004 | TRK-005 | TRK-006 | TRK-007 | TRK-008 Reserved Reserved

S-YMDhms

CONTENTSKEY

MAC

TRK-009 | TRK-010 | TRK-011 | TRK-012 | TRK-013 | TRK-014 | TRK-015 | TRK-016

0X0350

0X0330

0360X0

Fig. 12B

TRK-393 | TRK-394 | TRK-395 | TRK-396 | TRK-397 | TRK-398 | TRK-399 | TRK-400

0990X0 0X0670

INF-S(14720)

Ŋ 4 က  $^{\circ}$ 

Ω

0×00

¥. 0

 $\infty$ 9

⋖ တ

 $\omega$ 

Reserved

REVISION

MCode

Reserved

**BLKID-TLO** 

0X3FF0

ш

۵

O

DATA VARIABLE LENGTH Reserved C+L

**MCode** SIZE 0×00

Fig. 12C

APPROVED O.G. FIG.

BY CLASS SUBCLASS

DRAFTSMAN

ID	MUSIC INFORMATION (CHARACTERS)		ID	URL INFORMATION (WEB INFORMATION)	
0	RESERVED		32	RESERVED	
1	ALBUM	VARIABLE	33	ALBUM	VARIABLE
2	SUBTITLE	VARIABLE	34	SUB TITLE	VARIABLE
3	ARTIST	VARIABLE	35	ARTIST	VARIABLE
4	CONDUCTOR	VARIABLE	36	CONDUCTOR	VARIABLE
5	ORCHESTRA	VARIABLE	37	ORCHESTRA	VARIABLE
6	PRODUCER	VARIABLE	38	PRODUCER	VARIABLE
7	PUBLISHER	VARIABLE	39	PUBLISHER	VARIABLE
8	COMPOSER	VARIABLE	40	COMPOSER	VARIABLE
9	SONG WRITER	VARIABLE	41	SONG WRITER	VARIABLE
10	ARRANGER	VARIABLE	42	ARRANGER	VARIABLE
11	SPONSOR	VARIABLE	43	SPONSOR	VARIABLE
12	СМ	VARIABLE	44	СМ	VARIABLE
13	GUIDE	VARIABLE	45	GUIDE	VARIABLE
. 14	ORIGINAL MUSIC PROGRAM TITLE	VARIABLE	46	ORIGINAL MUSIC PROGRAM TITLE	VARIABLE
15	ORIGINAL ALBUM TITLE	VARIABLE	47	ORIGINAL ALBUM TITLE	VARIABLE
16	ORIGINAL MUSIC PROGRAM COMPOSER	VARIABLE	48	ORIGINAL MUSIC PROGRAM COMPOSER	VARIABLE
17	ORIGINAL MUSIC PROGRAM SONG WRITER	VARIABLE	49	ORIGINAL MUSIC PROGRAM SONG WRITER	VARIABLE
18	ORIGINAL MUSIC PROGRAM ARRANGER	VARIABLE	50	ORIGINAL MUSIC PROGRAM ARRANGER	VARIABLE
19	ORIGINAL MUSIC PROGRAM PERFORMER	VARIABLE	51	ORIGINAL MUSIC PROGRAM PERFORMER	VARIABLE
20	MESSAGE	VARIABLE	52		
21	COMMENT	VARIABLE	53		
22	WARNING	VARIABLE	54		
23	GENRE	VARIABLE	55		
24			56		
25			57		
26			58		
27			59		,
28			60		
-29			61		
30			62		
31			63		

ID	PATH/OTHERS		ID	CONTROL/NUMERIC DATA INFORMATION	
64	RESERVED		96	RESERVED	
65	PATH TO VIDEO DATA	VARIABLE	97	ISRC	8
66	PATH TO SONG DATA	VARIABLE	98	TOC_ID	8
67	PATH TO MIDI DATA	VARIABLE	99	UPC/JAN	7
68	PATH TO GUIDE DATA	VARIABLE	100	RECORDED DATE (YMDhms)	4
69	PATH TO COMMENT DATA	VARIABLE	101	RELEASED DATE	4
70	PATH TO CM DATA	VARIABLE	102	ORIGINAL MUSIC PROGRAM RELEASED DATE (YMDhms)	4
71	PATH TO FAX DATA	VARIABLE	103	RECORDED DATE (YMDhms)	4
72	PATH TO COMMUNICATION DATA 1	VARIABLE	104	SUB TRACK	4
73	PATH TO COMMUNICATION DATA 2	VARIABLE	105	AVERAGE VOLUME LEVEL	1
74	PATH TO CONTROL DATA	VARIABLE	106	RESUME	4
75			107	REPRODUCTION LOG (YMDhms)	4
76			108	NUMBER OF REPRODUCTION TIMES (FOR LEARNING)	1
77			109	PASSWORD 1	16
78			110	APPLevel	16
79			111	GENRE CODE	1
80			112	MIDI DATA	
81			113	THUMB NAIL PHOTOGRAPH DATA	
82			114	TEXT MULTIPLEXED BROADCAST DATA	
83			115	NUMBER OF TOTAL MUSIC PROGRAMS	
84			116	SET NUMBER	
85			117	NUMBER OF TOTAL SETS	
86			118	REC POSITION INFORMATION - GPS	VARIABLE
87			119	PB POSITION INFORMATION - GPS	VARIABLE
88			120	REC POSITION INFORMATION - PHS	VARIABLE
89			121	PB POSITION INFORMATION - PHS	VARIABLE
90			122	CONNECTION DESTINATION TELEPHONE NUMBER 1	VARIABLE
91			123	CONNECTION DESTINATION TELEPHONE NUMBER 2	VARIABLE
92			124	INPUT VALUE	VARIABLE
93			125	OUTPUT VALUE	VARIABLE
94			126	PB CONTROL DATA	VARIABLE
95			127	REC CONTROL DATA	VARIABLE

APPROVED	O.G. F	iG.
BY	CLASS	SUBCLASS
DRAFTSMAN		

ID	SYNCHRONOUS REPRODUCTION INFORMATION	
128	RESERVED	
129	SYNCHRONOUS REPRODUCTION INFORMATION 1	VARIABLE
130	SYNCHRONOUS REPRODUCTION INFORMATION 2	VARIABLE
131	SYNCHRONOUS REPRODUCTION INFORMATION 3	VARIABLE
132	SYNCHRONOUS REPRODUCTION INFORMATION 4	VARIABLE
133	SYNCHRONOUS REPRODUCTION INFORMATION 5	VARIABLE
134	SYNCHRONOUS REPRODUCTION INFORMATION 6	VARIABLE
135		
136		
137		
138	EMD INFORMATION 1	VARIABLE
139	EMD INFORMATION 2	VARIABLE
140		
141		·
142		
143		
144		
145		
146		
147		
148		
149		
150		
151		
152		
153		
154	·	
155		
156		
157	•	
158		
159		

#### Fig. 16A

0	1	2	3	4 5	6	7 8	9	Α	В	С	D	E	F
IN	0x00	ID	0x00	SIZE	Mcode	C+l	- ]	Resev	ed	VARIA	BLE I	ENGT A	Н

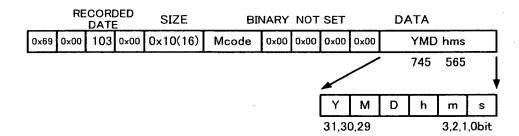
#### Fig. 16B

	ID		ART	TST	SI	ZE		ASCII ENGLISH DATA							4	
ſ	0×69	0x00	3	0x00	0x10	C(28)	Мс	ode	0x01 0x09 0x00 0x00 S			S	Ī	М	0	
ſ	N	&	G	R	Α	F.	U	N	K	E	L	0x00				

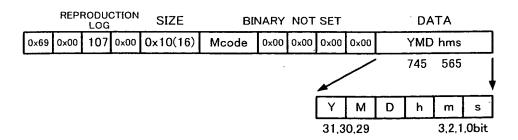
#### Fig. 16C

·							ID		ISRC	
SIZE	BII	NARY	ИОТ	SET			0×69	0×00	97	0×00
0x14(20)	Mcode	0x00	0x00	0x00	0x00	ISRC Co	de 8k	yte		
						DATA				

#### Fig. 16D



#### Fig. 16E



APPROVED		
BY	CLASS	SUBCLASS
DRAFTEMAN		

#### A3Dnnnnn.MSA(ATRAC3 DATA FILE)

	0 1	2	3 4	5 6	7	8	9	Α	В	0 0	E	F		
0x0000	BLKI	HD0	Reserve	ed MC	ode	· F	Resev	ed	В	LOCK	SERIA	L		
0x0010	N1C+L	N2C+L	INFSIZ	E T-F	PRT		T-SI	j	I	NX	XT			
0x0020	NM1(256)	)												
0x0120	NM2(512)	)												
0x0310														
0x0320		Res	erved(8)					CONT	ENTS	KEY				
	L	Res	erved(8)						MAC					
			Res	erved(12					<u> </u>	LT	FNo	2		
		<del></del>	1	MG(I Dhms=S		RIAL-n	nn ⁄IDhm			1				
0x0360	CON	MT	СТ		CN									
0x0370	PRI	SIZE		Y	175/0	0000		serve						
0x0380 0x0390				NNUM0		PRTS	IZE(U	x0388	1)		NUM0	-		
OXOSBO	Reserved(8) INF(0x0400)											$\dashv$		
	INF(UXU40U)													
,														
0x3FFF	BLKIC	)-HD0	Reserve	ed MC	ode	F	Resev	ed	Ві	OCK	SERIA			
0×4000		)-A3D	Reserve	ed MC	ode		JNNL				SERIA	_		
0x4010		BLO	CK SEED				INIT	ILIZA	TION \	/ECT	)R			
0x4020														
				SU-000	(Nby	te=384	byte)							
0x41A0														
				SU	-001	Nbyte	)							
0x4320														
				SU	-002	Nbyte	)							
0x04A0														
				SU	-041	(Nbyte	)							
0x7DA0														
	Reserved(Nbyte=208byte)													
0x7F20														
0 7			CK SEED								05011			
0x7FF0	BLKI	)-A3D	Reserv	ed MC	ode	CO	JNNL	IMO	BI	_OCK	SERIA	L		

	0	1	2	3	4	5	6	7	8	9	Α	В	С	D	Ε	F
0x0000	BL	KID	-HD0		Resen	ved	MCo	de		Resev	/ed		BLO	CK S	ERIA	
0x0010	N1C+	-L	N2C	+L	INFSI	ZE	T-PI	₹T		T-S	U		INX		XT	
0x0020	NM1(2	256)								-		-				$\neg$
				• .												
0x0120	NM2(5	512)														
0x0310																

#### Fig. 19

0×0320	Rese	ved(8)	CONTENTSKEY							
<u> </u>	Resei	ved(8)	MAC							
		Reserved(12)		Α	LT	F۱	Vo .			
	:	MG(D)SE	RIAL-nnn							
0×0360	CONNUM	YMDhms-S	YMDhms-E	MT	CT	CC	CN			

#### Fig. 20

bit7:MODE OF ATRAC3 0:Dual 1:Joint bit6,5,4 N OF 3 BITS:MODE VALUE

Ν	MODE	TIME	TRANSMISSION RATE	SU	BYTES
7	HQ	47min	176kbps	31SU	512
6		58min	146kbps	38SU	424
5	EX	64min	132kbps	42SU	384
4	SP	81min	105kbps	53SU	304
3		90min	94kbps	59SU	272
2	LP	128min	66kbps	84SU	192
1	mono	181min	47kbps	119SU	136
0	mono	258min	33kbps	169SU	96

#### bit3:Reserved

bit2:DATA TYPE 0:AUDIO 1:OTHER bit1:REPRODUCTION SKIP 0:NORMAL REP 1:SKIP

bit0:EMPHASIS 0:OFF 1:ON(50/15  $\mu$  S)

:COPY PERMISSION bit7

0:COPY PROHIBITION

1:COPY PERMISSION

bit6

:GENERATION

0:ORIGINAL

1:FIRST OR LATER COPY GENERATION

HCMS bit5-4 :COPY CONTROL FOR HIGH SPEED DIGITAL COPY

00:COPY PROHIBITION 01:COPY FIRST GENERATION 10:COPY PERMISSION COPY OPERATION OF CHILD OF FIRST COPY GENERATION IS PROHIBITED.

bit3-2 MagicGate AUTHENTICATION LEVEL

00:Level10(Non-MG)

01:Level1

10:Level2

11:Reserved

DIVIDE AND COMBINE ARE PROHIBITED IN OTHER THAN LEVEL 10.

bit1,0

Reserved

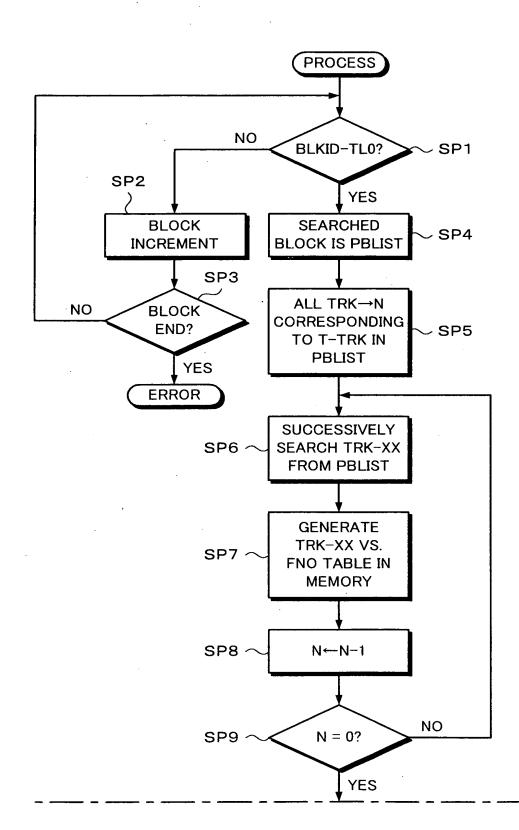
#### Fig. 22

0x0370	PRTSIZE	PRTK	EY	Reserved(8)
0x0380		CONNUM0	PRTSIZE(0x03	88) PRTKEY
0x0390		Rese	CONNUM0	

0x4000	BLKID-A3D	Reserved	MCode	CONNUM0	BLOCK SERIAL					
0x4010	BLOG	CK SEED		INITILIZATION VECTOR						
0x4020										
		SU	J-000(Nby	te=384byte)						

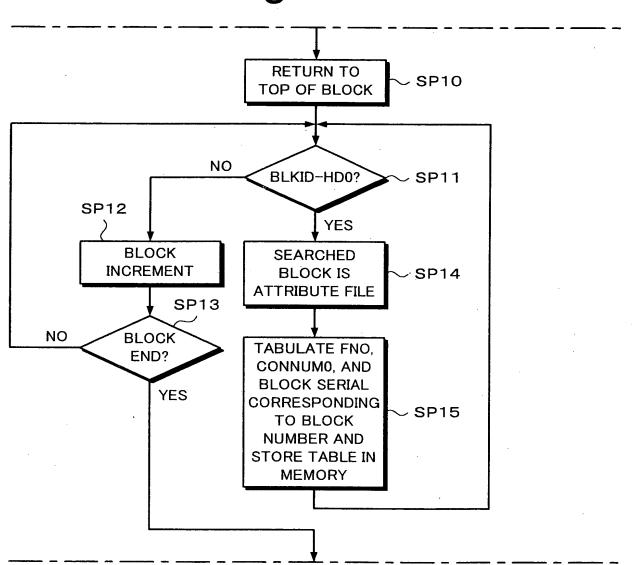
Fig. 24A

Fig. 24 Fig. 24A Fig. 24B Fig. 24C



Hall half also, from than that

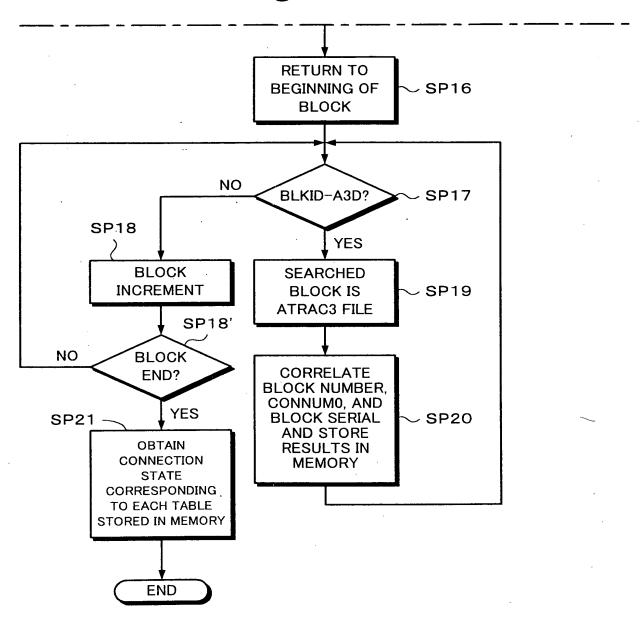
Fig. 24B



ļħ

ΞΞ

Fig. 24C

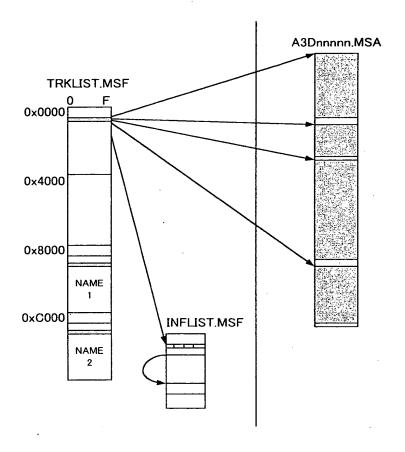


6.11 t.1.1 st. .... t.1.1 st. ... t.1.1 st.

ROOT
DCIMSTILL PICTURE DIRECTORY
H C M0xxxxnn MOVING PICTURE DIRECTORY
VOICEVOICE DIRECTORY
AVCTLCONTROL DIRECTORY
HIFIMUSIC DIRECTORY
TRKLIST.MSFTRACK INFORMATION MANAGEMENT FILE
CONTAINS POINTERS TO INFORMATION FILES FOR TRACK PARTS, NAMES, AND CONTENT KEYS
NAME1STICK NAME AND PROGRAM NAME BLOCK (FOR ONE BYTE CODE)
PROGRAM NAME DATA CORRESPONDING TO ASCII/8859-1 CODE
NAME2STICK NAME AND PROGRAM NAME BLOCK (FOR TWO BYTE CODE)
PROGRAM NAME DATA CORRESPONDING TO MS-JIS, HANKUL, CHINESE CODE, etc.
TRAKLISTB.MSFBACKUP TRACK INFORMATION MANAGEMENT FILE
FULL COPY OF TRKLIST MSF
INFLIST.MSF CONTAINS VARIOUS TYPES OF ADDITIONAL INFORMATION SUCH AS ARTIST NAME,ISRC CODE, TIME STAMP, STILL PICTURE DATA, etc.
·
A3Dnnnnn.MSA ATRAC3 PROGRAM DATA FILE
A3Dnnnn.MSA

Land Band Alem Residence Control

Fig. 26



APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

#### Fig. 27

#### TRACK INFORMATION MANAGEMENT FILE (TRKLIST.MSF)

	0	1	2	3	4	5	6	7	8	9	A	В	С	D	E	F
0000x0	В	LK II	D-TL	.0	<b>T</b> -1	ΓRK	MC	ode	R	EVI	SIOI	7	Y	MD	h m	s
0x0010	N1	N2	MS	ID	S-1	rkk	PΑ	SS	AF	PP	INF	<b>-</b> S	S	YMC	) h n	ns
0×0020				,	-		TF	RKIN	F-0	01						
-							PF	RTIN	F-0	01		•••••				
							TF	RKIN	F-0	02			-			
							PF	RTIN	F-0	02						
								(	)							
		•														
		,														
x3FF0	В	LK II	K ID-TL0 MCode REVISION													
0x4000	В	LK II	D-TL	-TL1 MCode REVISION												
								(	, )							
•				DE	TAIL	_ OF	TR	KINF	nn	n/P	RTII	۷F-ı	าทท			
	0	1	2	3	4	5	6	7	8	9	Α	В	С	D	E	F
	T0	LT	IN	F	1	FNM	-nnr	1		CC	NTE	ENT	S KE	Y−n	nn	
			-nn	n		M	IG(D	) SE	RIA	L-nr	าท					
	,	APP	CTL	-	·co	NN	JM-ı	nnn	P-r	าทท	Х	T		INX-	nnn	
	Y	MDh	ms-	S	Y	MDł	nms-	·E	МТ	СТ	cc	CN	F	Rese	rve	1
	PR		A-0	000	PR	TSIZ	ZE-0	000			PR	TKE	Y-0	000		
								(	5							
	PR		A-n	nnn	PR	TSIZ	ZE-n	nnn		PRTKEY-nnnn						
0x7FF0	В	LK II	D-TI	_1			MC	ode	F	REVI	SIO	N				

# P. Bald Alexander Company of the Com

#### Fig. 28

#### STICK NAME AND PROGRAM NAME BLOCK-FOR ONE BYTE CODE

	0	_ 1	2	3	4	5	6	7			
0x8000		BLK I	D-NM1		MCode						
0x8008		PNM	11-S	_	PNM1~001						
0x8010		PNM1	I-002		PNM1-003						
					5						
0x8668		PNM1	I-408		NM1	-S					
			NM1-0	002							
			NM1-0	003							
			NM1-4	808				1			
0xBFF0						_					
0xBFF8		BLK IC	-NM1				MCd	ode			

#### Fig. 29

#### STICK NAME AND PROGRAM NAME BLOCK-FOR TWO-BYTE CODE

	0	1	2	3	4	5	6	7			
0xC000		BLK IC	-NM2				МС	ode			
0xC008		PNM	2-S		PNM2-001						
0xC010		PNM2	-002		PNM2-003						
					5						
0xC668		PNM2	-408		NM2	-S					
			NM2-0	-							
			NM2-C	003							
			> NM2−4	108							
0xFFF0											
0xFFF8		BLK IC	-NM2				МС	ode			

#### ATRAC3 DATA FILE (A3Dnnnnn.MSA) · · · 1 SoundUnit=N BYTES

	0	1	2	3	4	5	6	7						
0×0000	·	BLK IC	D-A3D				MCc	de						
0×0008				BLOCK	SEED									
0x0010		CON	0MU			BLOCK	SERIAL							
0x0018			INIT	ILIZATIO	ON VEC	TOR	-							
0x0020	·			su-000	(N byte	)								
0x0020 +N/8				SU-001	(N byte	)								
•				SU-002	(N byte	)								
		<b>\</b>												
		<del> </del>		1 / 1	) /ALL									
	·		SU	J-(nnn-1	) (N by	te) 	,							
0x3FF0 -N/8			R	eserved	(M byte	e)								
0×3FF0				BLOCK	SEED									
0x3FF8		BLK ID	-A3D				MCo	de						

BY CLASS SUBCLASS

#### Fig. 31

#### ADDITIONAL INFORMATION MANAGEMENT FILE (INFLIST.MSF)

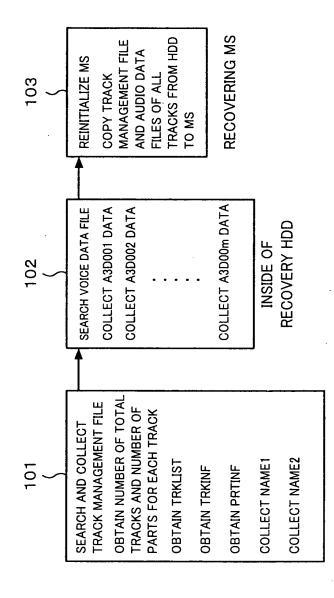
	0 1 2 :	3 4 5 6	789AE	B C D E F											
0x0000	BLK ID-INF	T-DAT MCode	YMDhms	INF-409											
0x0010	INF-001	INF-002	INF-003	INF-004											
0x0020	INF-005	INF-006	INF-007	INF-008											
	5	5	5	5											
0x0660	INF-405	INF-406	INF-407	INF-408											
0x07F0	Reserved														
0x0800	DataSlot-0000														
0x0810	DataSlot-0001														
			\$												
0x3FF0		DataSlot-	03 7F(895dec)												
0×4000		DataS	lot-03 8 0												
			5												
ŧ	l	DataSlot-FFFF (	MAXIMUM VAL	JE)											

#### Fig. 32

#### ADDITIONAL INFORMATION DATA STRUCTURE

0	1	2	3	4	5	6	7	8	9	Α	В	С	D	Ε	F
IN	ID	SID	00	SI	ZE	мс	ode						-		
		<u>-</u>		VAI	RIA	BLE	ELE	ENC	тH	DA	ΛTΑ				





# RELATION BETWEEN DATA BYTES AND TRANSMISSION RATES

NUMBER OF REMAINING SLOTS	64	2	8	18	32	20	34	20	48	32	24	24	32	8	34	32	8	. 32	80	32	20	23	8	24	8	4
NUMBER OF REMAINING BYTES	512	16	64	144	256	400	272	160	384	256	192	192	256	64	272	526	64	526	64	256	160	184	64	192	64	32
Mono(MINUTES)	92	101	104	107	110	113	NONE	119	122	128	134	141	147	156	162	171	184	193	508	220	539	NONE	. 560	787	312	343
Stereo(MINUTES)	47	90	52	53	55	56	58	59	61	64	29	07	73	78	81	85	92	96	104	110	119	124	130	141	156	171
MINUTES	47.556	50.624	52.158	53.692	55.226	56.760	58.294	59.829	61.363	64.431	67.499	70.567	73.635	78.237	81.305	82.908	92.044	96.646	104.316	110,453	119.657	124.259	130,396	141.134	156.475	171.815
SECONDS	2853.361	3037.449	3129.493	3221.537	3313.58	3405.624	3497.668	3589.712	3681.756	3865.844	4049.932	4234.019	4418.107	4694.239	4878.327	5154.458	5522.634	5798.766	6258.985	6627.161	7179.424	7455.556	7823.732	8468.039	9388.478	10308.92
SU	31	33	34	. 35	36	37	38	39	40	42	44	46	48	51	53	26	09	63	89	72	78	81	82	92	102	112
TRANSMISSION RATE	176.4	170.9	165.4	159.9	154.4	148.8	146.1	143.3	137.8	132.3	126.8	121.3	115.8	. 110.3	104.7	99.5	93.7	88.2	82.7	77.2	7.17	6.89	66.2	9.09	55.1	50.3
BYTES	512	496	480	464	448	432	424	416	400	384	368	352	336	320	304	288	272	256	240	224	208	200	192	176	160	146
BYTES	526	248	240	232	224	216	NONE	208	200	192	184	176	168	160	152	144	136	128	120	112	104	NONE	96	88	80	73
TRAMSMISSION RATE	88.2	85.4	82.7	6.67	77.2	74.4	MD Data	7.17	6.89	- 66.2	63.4	9.09	57.9	55.1	52.4	49.6	46.9	44.1	41.3	38.6	35.8		33.1	30.3	27.6	
	71									72					73				4				74		······································	